

**REMARKS**

Upon entry of the present amendment, claims 1-5, 7-8, 10-16, 24-27 and 38 will be pending in the application.

In the Office Action, the Examiner rejected claims 8, 12, 13, 16-19, 22-34, 36 and 37 under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 5,729,119 (“Barbour”) in view of U.S. Patent No. 5,452,172 (“Lane”). Applicants respectfully traverse such rejection. As noted above, claims 17-19, 22-23, 28-34, 36, and 37 have been canceled, thereby obviating the rejection of these claims. It is respectfully submitted that claims 8, 12, 13, 16, and 24-26 are allowable over the cited references for the reasons set forth below.

Independent claims 8 and 24 contain features not taught or suggested by the art of record. Specifically, claim 8 and 24 have been amended to recite, among other things, *a microprocessor for monitoring the series of modulated current pulses to determine whether to modify the magnitude of the modulated current pulses*. Such feature allows the control device of the present invention to adjust the magnitude of the current pulses so that the control device may operate different actuators. See page 9 of the present application.

None of the art of record discloses or suggests “*a microprocessor for monitoring the series of modulated current pulses to determine whether to modify the magnitude of the modulated current pulses.*” The Barbour and Lane references disclose, respectively, a solenoid trip device and an auto recloser. Importantly, both references are designed to operate a specific solenoid or recloser and cannot be used with multiple actuator types. Thus, the references taken alone or in combination do not provide disclosure or suggestion of “*a microprocessor for monitoring the series of modulated current pulses to determine whether to modify the magnitude of the modulated current pulses.*”

Therefore, since independent claims 8 and 24, and all claims depending therefrom including 12, 13, 16 and 25-26, contain features that are neither taught nor suggested by the art of record, such claims are patentably distinct therefrom. Applicants respectfully request withdrawal and reconsideration of the rejection of claims 8, 12, 13, 16, and 24-26.

The Examiner also rejected claims 1-7, 9-11, 14, 15, 20, 21 and 35 under 35 U.S.C. §103(a) over Barbour and Lane in view of U.S. Patent No. 6,147,422 ("Delson"). Such rejection is respectfully traversed. As noted above, claims 20, 21, and 35 have been canceled, thereby obviating the rejection of these claims. It is respectfully submitted that claims 1-7, 9-11, 14, and 15 are allowable over the cited references for the reasons set forth below.

Independent claim 1 contains features that are neither taught nor suggested in the art of record. Specifically, independent claim 1 has been amended to recite:

modifying the first magnitude of the first series of modulated current pulses;  
applying a second series of modulated current pulses having a second magnitude through the coil of the magnetic actuator connected to the power line in the high voltage electrical distribution system in a first direction such that the actuator moves from a first position to a second position.

In other words, the first magnitude of the first series of modulated current pulses is modified then the second magnitude is applied to the coil of the actuator. The combination of the Barbour, Lane and Delson references fails to teach or suggest this feature. Delson fails to overcome the deficiencies of the combination of the Barbour and Lane references as described above. In particular, the Delson reference only discloses the design of a particular actuator. Therefore, claim 1 and all claims depending therefrom, including claims 2-7 are patentably distinct from the combination of Delson, Lane and Barbour. Furthermore, it is respectfully submitted that claims 9-11, 14, and 15 are patentable because of, at least, their

dependency on patentable claim 8. Applicants respectfully request withdrawal and reconsideration of the rejection of claims 1-7, 9-11, 14, and 15.

Applicants have also added new claim 38. Support for new claim 38 can be found, among elsewhere, on pages 9-11 and in Fig. 2. Allowance of claim 38 is respectfully requested.

### **CONCLUSION**

In view of the foregoing remarks, Applicants respectfully submit that the present application is in condition for allowance. Reconsideration of the application and an early Notice of Allowance are respectfully requested. Attached hereto is a page entitled **“VERSION WITH MARKINGS TO SHOW CHANGES MADE.”** In the event that the Examiner believes that the present application is not allowable for any reason, the Examiner is encouraged to contact the undersigned attorney to discuss resolution of any remaining issues.

Date:

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Respectfully submitted,



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**VERSION WITH MARKINGS TO SHOW CHANGES MADE****In the claims:**

Please amend claims 1, 8, 24 and add new claim 38 as follows:

Cancel claim 6, 9, 17-23 and 28-37

1. (Twice Amended) A method for controlling a magnetic actuator having a coil and an armature within a power switching device, the actuator being connected to a power line in a high voltage electrical distribution system, the method comprising:

inputting a power signal; [and]

applying a first series of modulated current pulses having a first magnitude through the coil of the magnetic actuator connected to the power line in the high voltage electrical distribution system;

modifying the first magnitude of the first series of modulated current pulses; and

applying a second series of modulated current pulses having a second magnitude through the coil of the magnetic actuator connected to the power line in the high voltage electrical distribution system in a first direction such that the actuator moves from a first position to a second position.

8. (Twice Amended) A power switching control device for controlling a magnetic actuator within a power switching device [connected] connectable to a power line in a high voltage electrical distribution system, the control device comprising:

a power supply;

[a microprocessor;]

at least one actuator drive circuit [connected to a power switching device and] adapted to provide a series of modulated current pulses to the magnetic actuator, the actuator being connectable [connected] to the power line in the high voltage electrical distribution system within the power switching device[.]; and

a microprocessor for monitoring the series of modulated current pulses to determine whether to modify the magnitude of the modulated current pulses.

24. (Twice Amended) A power switching device system comprising:

a power switching device having a magnetic actuator [connected] connectable to a power line in a high voltage electrical distribution system including a coil and an armature; [and]

a power switching device controller adapted to apply a voltage across the coil for a predetermined interval of time, measure a current value in the coil during a portion of the predetermined interval of time, determine an impedance value for the coil based on the current value, compare the impedance value for the coil to a threshold impedance value for the coil and determine, based on the comparison, a characteristic of the magnetic actuator; and

a microprocessor for monitoring the series of modulated current pulses to determine whether to modify the magnitude of the modulated current pulses.

38. (NEW) A method for controlling a magnetic actuator comprising:

• applying a first series of modulated current pulses having a first magnitude through the coil of the magnetic actuator;

modifying the first magnitude of the first series of modulated current pulses; and

applying a second series of modulated current pulses having a second magnitude through the coil of the magnetic actuator such that operation of the magnetic actuator is performed.